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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,922	11/29/2002	Rainer Bruchhaus	2002P11001US	5323
31366	7590	12/03/2003	EXAMINER	
HORIZON IP PTE LTD 166 KALLANG WAY SINGAPORE 349249 SINGAPORE, 349249 SINGAPORE			FENTY, JESSE A	
			ART UNIT	PAPER NUMBER
			2815	

DATE MAILED: 12/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/065,922

Applicant(s)

BRUCHHAUS ET AL.

Examiner

Jesse A. Fenty

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 11, 13-15 and 20-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 11, 13-15 and 20-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-5, 11, 13-15, and 20-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. In re claims 1 and 20, the limitation, “sufficiently thick” is vague and indefinite.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5 and 20-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Gnadinger (US 2002/0153542 A1).

In re claims 1 and 20, Gnadinger (Fig. 2A) discloses a semiconductor device and method, comprising:

A substrate (20);

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A feature (31, 30, 50) formed on the substrate;

An insulating layer (60) formed on the feature; and

A radiation protection layer (80) comprising a conductive material covering at least a portion of the feature sensitive to radiation (see Yokote et al.; 5,315,511; column 1, lines 28-31), the radiation protection layer is isolated from the feature by the insulating layer, the radiation protection layer is sufficiently thick to reduce radiation damage to the portion of the feature sensitive to radiation.

In re claims 2 and 21, Gnadinger discloses the devices of claims 1 and 20 respectively, wherein the feature comprises a ferroelectric capacitor having top (50) and bottom (31) electrodes separated by a ferroelectric layer (30), the ferroelectric layer being sensitive to radiation.

In re claims 3 and 22, Gnadinger discloses the devices of claims 2 and 20 respectively, wherein the radiation protection layer is located on sidewalls of the capacitor to form spacers. The limitation, “to reduce ... layer” is a recitation of the intended use of the claimed device. Terms that simply set forth the intended use, a property inherent in or a function, do not differentiate the claimed composition of these elements from those known to prior art.

In re claim 4, Gnadinger discloses the device of claim 2, further comprising a plurality of features to form a memory array (pp. 3, section [0027]).

In re claim 5, Gnadinger discloses the device of claim 4, wherein the radiation protection layer comprises sidewall spacers located on sidewalls of the capacitor. The limitation, “to reduce ... layer” is a recitation of the intended use of the claimed device.

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Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11, 13-15 and 23 re rejected under 35 U.S.C. 103(a) as being unpatentable over Gnadinger as applied to claims 1-5 above, and further in view of Alugbin et al. (U.S. Patent No. 5,851,870).

In re claims 11 and 23, Gnadinger discloses the devices of claims 1-5 and 20, wherein the material of the radiation protection layer serves as a barrier to radiation, but does not expressly disclose the layer comprising a noble metal that will be a barrier to UV radiation. Alugbin (Fig. 9) discloses noble metal layers as comparable or substitute metals for aluminum. It would have been obvious for one skilled in the art at the time of the invention to use a noble metal as disclosed by Alugbin for the aluminum connect layer of Gnadinger for the purpose, for example, of enhancing the electric potential of the layer (Alugbin; column 2, lines 61-64). Noble metals are known to be interchangeable with aluminum interconnects, as disclosed by Larson (U.S. Patent No. 5,580,814; column 6, lines 47-50).

In re claim 13, Gnadinger in view of Alugbin discloses the device of claim 11, wherein the insulating layer (silicon oxide) serves as a barrier to hydrogen (see An; pp. 2, section [0022]).

In re claim 14, Gnadinger in view of Alugbin discloses the device of claim 11, wherein the material of the radiation protection layer comprises a noble metal.

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In re claim 15, Gnadinger in view of Alugbin discloses the device of claim 13, wherein the material of the radiation protection layer comprises a noble metal.

Response to Arguments

5. Applicant's arguments with respect to claims 1-5, 11, 13-15 and 20-23 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse A. Fenty whose telephone number is 703-308-8137. The examiner can normally be reached on 5/4-9 1st Fri. Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 703-308-2772. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Jesse A. Fenty
Examiner
Art Unit 2815

JAF


TOM THOMAS
SUPERVISORY PATENT EXAMINER